

# Mariagrazia Graziano

## List of Publications by Year in descending order

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109  
papers

1,323  
citations

430442

18  
h-index

500791

28  
g-index

110  
all docs

110  
docs citations

110  
times ranked

413  
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards Compact Modeling of Noisy Quantum Computers: A Molecular-Spin-Qubit Case of Study. ACM Journal on Emerging Technologies in Computing Systems, 2022, 18, 1-26.	1.8	4
2	Impact of Molecular Electrostatics on Field-Coupled Nanocomputing and Quantum-Dot Cellular Automata Circuits. Electronics (Switzerland), 2022, 11, 276.	1.8	5
3	Multi-Molecule Field-Coupled Nanocomputing for the Implementation of a Neuron. IEEE Nanotechnology Magazine, 2022, 21, 52-59.	1.1	3
4	A Model for the Evaluation of Monostable Molecule Signal Energy in Molecular Field-Coupled Nanocomputing. Journal of Low Power Electronics and Applications, 2022, 12, 13.	1.3	2
5	FUNCODE: Effective Device-to-System Analysis of Field-Coupled Nanocomputing Circuit Designs. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 467-478.	1.9	3
6	Parallel Computation in the Racetrack Memory. IEEE Transactions on Emerging Topics in Computing, 2021, , 1-1.	3.2	3
7	Skyrmion Logic-In-Memory Architecture for Maximum/Minimum Search. Electronics (Switzerland), 2021, 10, 155.	1.8	13
8	SCERPA Simulation of Clocked Molecular Field-Coupling Nanocomputing. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, 29, 558-567.	2.1	8
9	Ab initio Molecular Dynamics Simulations of Field-Coupled Nanocomputing Molecules. Journal of Integrated Circuits and Systems, 2021, 16, 1-8.	0.3	6
10	Octantis: An Exploration Tool for Beyond von Neumann architectures. , 2021, , .		0
11	Beyond-CMOS Artificial Neuron: A Simulation- Based Exploration of the Molecular-FET. IEEE Nanotechnology Magazine, 2021, 20, 903-911.	1.1	7
12	Hybrid-SIMD: a Modular and Reconfigurable approach to Beyond von Neumann Computing. IEEE Transactions on Computers, 2021, , 1-1.	2.4	1
13	A Reconfigurable Field-Coupled Nanocomputing Paradigm on Uniform Molecular Monolayers. , 2021, , .		1
14	SCERPA: A Self-Consistent Algorithm for the Evaluation of the Information Propagation in Molecular Field-Coupled Nanocomputing. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2020, 39, 2749-2760.	1.9	7
15	Data Processing and Information Classification“An In-Memory Approach. Sensors, 2020, 20, 1681.	2.1	2
16	Low Power Speaker Identification using Look Up-free Gaussian Mixture Model in CMOS. , 2019, , .		6
17	New Logic-In-Memory Paradigms: An Architectural and Technological Perspective. Micromachines, 2019, 10, 368.	1.4	37
18	Bistable Propagation of Monostable Molecules in Molecular Field-Coupled Nanocomputing. , 2019, , .		6

#	ARTICLE	IF	CITATIONS
19	Exploiting the Logic-In-Memory paradigm for speeding-up data-intensive algorithms. The Integration VLSI Journal, 2019, 66, 153-163.	1.3	5
20	A Quantum Computation Model for Molecular Nanomagnets. IEEE Nanotechnology Magazine, 2019, 18, 1027-1039.	1.1	12
21	Characterisation of a bis-ferrocene molecular QCA wire on a non-ideal gold surface. Micro and Nano Letters, 2019, 14, 22-27.	0.6	14
22	Design and Characterization of Circuit based on Emerging Technology: the MagCAD Approach. , 2018, , .		3
23	Effectiveness of Molecules for Quantum Cellular Automata as Computing Devices. Journal of Low Power Electronics and Applications, 2018, 8, 24.	1.3	22
24	Exploring N3ASIC technology for microwave imaging architectures. The Integration VLSI Journal, 2018, 62, 395-405.	1.3	0
25	VHDL-AMS Simulation Framework for Molecular-FET Device-to-Circuit Modeling and Design. Active and Passive Electronic Components, 2018, 2018, 1-18.	0.3	2
26	Architectural exploration of perpendicular Nano Magnetic Logic based circuits. The Integration VLSI Journal, 2018, 63, 275-282.	1.3	12
27	Topology optimization and Monte Carlo multithreading simulation for fault-tolerant nanoarrays. Journal of Computational Electronics, 2018, 17, 1356-1369.	1.3	2
28	Exploration of multilayer field-coupled nanomagnetic circuits. Microelectronics Journal, 2018, 79, 46-56.	1.1	7
29	ToPoliNano & MagCAD: A Complete Framework for Design and Simulation of Digital Circuits Based on Emerging Technologies. , 2018, , .		6
30	ToPoliNano: A CAD Tool for Nano Magnetic Logic. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017, 36, 1061-1074.	1.9	40
31	A pNML Compact Model Enabling the Exploration of Three-Dimensional Architectures. IEEE Nanotechnology Magazine, 2017, 16, 431-438.	1.1	14
32	Design of MRAM-Based Magnetic Logic Circuits. IEEE Nanotechnology Magazine, 2017, 16, 851-859.	1.1	6
33	Efficient and reliable fault analysis methodology for nanomagnetic circuits. International Journal of Circuit Theory and Applications, 2017, 45, 660-680.	1.3	21
34	MagCAD: Tool for the Design of 3-D Magnetic Circuits. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2017, 3, 65-73.	1.1	25
35	Racetrack logic. Electronics Letters, 2017, 53, 1462-1464.	0.5	2
36	Corrections to "MagCAD: A Tool for the Design of 3-D Magnetic Circuits" [2017 65-73]. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2017, 3, 111-111.	1.1	0

#	ARTICLE	IF	CITATIONS
37	Domain Wall Interconnections for NML. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2017, 25, 3067-3076.	2.1	0
38	A Reconfigurable Array Architecture for NML. , 2016, , .		1
39	Performance analysis of transistor-based circuits through TAMAMS Web: From bulk to molecular devices. , 2016, , .		2
40	An effective algorithm for clocked field-coupled nanocomputing paradigm. , 2016, , .		5
41	Towards Logic-In-Memory circuits using 3D-integrated Nanomagnetic logic. , 2016, , .		8
42	An efficient model for evaluating current in silicon nanocrystals. , 2016, , .		0
43	Reconfigurable Systolic Array: From Architecture to Physical Design for NML. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 3208-3217.	2.1	18
44	Effect of a Clock System on Bis-Ferrocene Molecular QCA. IEEE Nanotechnology Magazine, 2016, 15, 574-582.	1.1	24
45	Virtual Clocking for NanoMagnet Logic. IEEE Nanotechnology Magazine, 2016, 15, 962-970.	1.1	21
46	Modeling, Design, and Analysis of MagnetoElastic NML Circuits. IEEE Nanotechnology Magazine, 2016, 15, 977-985.	1.1	7
47	EE-BESD: molecular FET modeling for efficient and effective nanocomputing design. Journal of Computational Electronics, 2016, 15, 479-491.	1.3	4
48	Computationally Efficient Multiple-Independent-Gate Device Model. IEEE Nanotechnology Magazine, 2016, 15, 2-14.	1.1	7
49	Out-of-plane NML modeling and architectural exploration. , 2015, , .		16
50	Modular framework for molecular-FET device-to-circuit modeling. , 2015, , .		0
51	Feedbacks in QCA: A Quantitative Approach. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 2233-2243.	2.1	28
52	Interleaving in Systolic-Arrays: A Throughput Breakthrough. IEEE Transactions on Computers, 2015, 64, 1940-1953.	2.4	5
53	Logic-in-Memory: A Nano Magnet Logic Implementation. , 2015, , .		19
54	Process Variability and Electrostatic Analysis of Molecular QCA. ACM Journal on Emerging Technologies in Computing Systems, 2015, 12, 1-23.	1.8	9

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55	Logic-in-Memory architecture made real. , 2015, , .		22
56	Protein Alignment Systolic Array Throughput Optimization. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2015, 23, 68-77.	2.1	12
57	A standard cell approach for MagnetoElastic NML circuits. , 2014, , .		4
58	Magnetoelastic Clock System for Nanomagnet Logic. IEEE Nanotechnology Magazine, 2014, 13, 963-973.	1.1	34
59	Hierarchical modeling of OPV-based crossbar architectures. , 2014, , .		4
60	ToPoliNano: NanoMagnet Logic Circuits Design and Simulation. Lecture Notes in Computer Science, 2014, , 274-306.	1.0	7
61	Simulation and design of an UWB imaging system for breast cancer detection. The Integration VLSI Journal, 2014, 47, 548-559.	1.3	13
62	Fault tolerant nanoarray circuits: Automatic design and verification. , 2014, , .		5
63	Molecular transistor circuits: From device model to circuit simulation. , 2014, , .		9
64	A quantitative approach to testing in Quantum dot Cellular Automata: NanoMagnet Logic case. , 2014, , .		15
65	Physical design and testing of Nano Magnetic architectures. , 2014, , .		15
66	Enabling design and simulation of massive parallel nanoarchitectures. Journal of Parallel and Distributed Computing, 2014, 74, 2530-2541.	2.7	16
67	Domain Magnet Logic (DML): A new approach to magnetic circuits. , 2014, , .		8
68	NanoMagnet Logic: An Architectural Level Overview. Lecture Notes in Computer Science, 2014, , 223-256.	1.0	10
69	Understanding a Bisferrocene Molecular QCA Wire. Lecture Notes in Computer Science, 2014, , 307-338.	1.0	5
70	Electric Clock for NanoMagnet Logic Circuits. Lecture Notes in Computer Science, 2014, , 73-110.	1.0	8
71	NanoMagnet Logic: An Architectural Level Overview. Lecture Notes in Computer Science, 2014, , 223-256.	1.0	16
72	ToPoliNano: NanoMagnet Logic Circuits Design and Simulation. Lecture Notes in Computer Science, 2014, , 274-306.	1.0	16

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73	Understanding a Bisferrocene Molecular QCA Wire. Lecture Notes in Computer Science, 2014, , 307-338.	1.0	3
74	Electric Clock for NanoMagnet Logic Circuits. Lecture Notes in Computer Science, 2014, , 73-110.	1.0	5
75	Nanomagnetic Logic Microprocessor: Hierarchical Power Model. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 1410-1420.	2.1	26
76	Bis-Ferrocene Molecular QCA Wire: Ab Initio Simulations of Fabrication Driven Fault Tolerance. IEEE Nanotechnology Magazine, 2013, 12, 498-507.	1.1	67
77	Design challenges of an UWB system for breast cancer detection. , 2013, , .		0
78	Charge distribution in a molecular QCA wire based on bis-ferrocene molecules. , 2013, , .		5
79	UWB receiver for breast cancer detection: Comparison between two different approaches. , 2013, , .		3
80	Breast cancer detection based on an UWB imaging system: Receiver design and simulations. , 2013, , .		3
81	Hardware Acceleration of Beamforming in a UWB Imaging Unit for Breast Cancer Detection. VLSI Design, 2013, 2013, 1-11.	0.5	6
82	A Hardware Viewpoint on Biosequence Analysis. ACM Journal on Emerging Technologies in Computing Systems, 2013, 9, 1-21.	1.8	13
83	Quantum Dot Cellular Automata Check Node Implementation for LDPC Decoders. IEEE Nanotechnology Magazine, 2013, 12, 368-377.	1.1	47
84	ToPoliNano. , 2012, , .		22
85	Majority Voter Full Characterization for Nanomagnet Logic Circuits. IEEE Nanotechnology Magazine, 2012, 11, 940-947.	1.1	45
86	ToPoliNano: A synthesis and simulation tool for NML circuits. , 2012, , .		20
87	Molecule interaction for QCA computation. , 2012, , .		15
88	Silicon nanoarray circuits design, modeling, simulation and fabrication. , 2012, , .		5
89	TAMTAMS: An open tool to understand nanoelectronics. , 2012, , .		13
90	TAMTAMS: A flexible and open tool for UDSM process-to-system design space exploration. , 2012, , .		7

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91	FFT implementation using QCA. , 2012, , .		17
92	Magnetic dipolar coupling and collective effects for binary information codification in cost-effective logic devices. Journal of Magnetism and Magnetic Materials, 2012, 324, 3006-3012.	1.0	21
93	Towards a molecular QCA wire: simulation of write-in and read-out systems. Solid-State Electronics, 2012, 77, 101-107.	0.8	49
94	UDSM Trends Comparison: From Technology Roadmap to UltraSparc Niagara2. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2012, 20, 1341-1346.	2.1	32
95	Molecular QCA: A write-in system based on electric fields. , 2011, , .		13
96	An NCL-HDL Snake-Clock-Based Magnetic QCA Architecture. IEEE Nanotechnology Magazine, 2011, 10, 1141-1149.	1.1	65
97	Nanofabric power analysis: Biosequence alignment case study. , 2011, , .		7
98	Asynchrony in Quantum-Dot Cellular Automata Nanocomputation: Elixir or Poison?. IEEE Design and Test of Computers, 2011, 28, 72-83.	1.4	31
99	A flexible simulation methodology and tool for nanoarray-based architectures. , 2010, , .		16
100	A Fully Differential Digital CMOS UWB Pulse Generator. Circuits, Systems, and Signal Processing, 2009, 28, 649-664.	1.2	9
101	A mixed-signal demodulator for a low-complexity IR-UWB receiver: Methodology, simulation and design. The Integration VLSI Journal, 2009, 42, 47-60.	1.3	5
102	An Automotive CD-Player Electro-Mechanics Fault Simulation Using VHDL-AMS. Journal of Electronic Testing: Theory and Applications (JETTA), 2008, 24, 539-553.	0.9	1
103	A VHDL-AMS Simulation Environment for an UWB Impulse Radio Transceiver. IEEE Transactions on Circuits and Systems I: Regular Papers, 2008, 55, 1368-1381.	3.5	18
104	A Low-power CMOS 2-PPM Demodulator for Energy Detection IR-UWB Receivers. , 2007, , .		4
105	An electromigration and thermal model of power wires for a priori high-level reliability prediction. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2004, 12, 349-358.	2.1	16
106	Coupled electro-thermal modeling and optimization of clock networks. Microelectronics Journal, 2003, 34, 1175-1185.	1.1	1
107	Power Supply Design Parameters for Switching-Noise Control in Deep-Submicron Circuits Design Flows. Analog Integrated Circuits and Signal Processing, 2002, 31, 225-248.	0.9	2
108	Cell library development using multi-objective function optimization. , 0, , .		0

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109	Energy detection UWB receiver design using a multi-resolution VHDL-AMS description. , 0, , .		11